

Safety Attribute Inspection (SAI) Data Collection Tool

3.1.7 De-Icing Program (OP)

ELEMENT SUMMARY INFORMATION

Purpose of this Element (certificate holder's responsibility):

- To ensure that the certificate holder's De-Icing process prevents an aircraft from taking off with frost, ice, or snow adhering to the wings, control surfaces, propellers, engine inlets, or other critical surfaces of the aircraft.

Objective (FAA oversight):

- To determine if the certificate holder's De-Icing process meets all applicable requirements of Title 14 of the Code of Federal Regulations (14 CFR) and FAA policies.
- To determine if the certificate holder's De-Icing process incorporates the safety attributes.
- To identify any shortfalls in the certificate holder's De-Icing process.

Specific Instructions:

- Intentionally left blank

SUPPLEMENTAL INFORMATION

Specific Regulatory Requirements (SRRs):

- SRRs:
 - 119.43(b)
 - 119.43(b)(1)
 - 119.43(b)(2)
 - 119.43(c)
 - 121.135(a)(1)
 - 121.135(b)(1)
 - 121.135(b)(2)
 - 121.135(b)(3)
 - 121.629
 - 121.629(c)(1)(i)
 - 121.629(c)(1)(ii)
 - 121.629(c)(1)(iii)
 - 121.629(c)(1)(iv)
 - 121.629(c)(2)
 - 121.629(c)(3)
 - 121.629(c)(4)
 - 121.629(d)
 - A.023

Related CFRs & FAA Policy/Guidance:

- Related CFRs:
 - Intentionally left blank
- FAA Policy/Guidance:
 - AC 120-89

- FAA Policy/Guidance:
 - AC 120-58
 - AC 120-60B
 - N8000.308
 - N8000.309
 - N8000.313

SAI SECTION 1 - PROCEDURES ATTRIBUTE

Objective: Procedures, instructions, and information contained in the certificate holder's manual are documented methods for accomplishing a process. Policies contained in the certificate holder's manual should establish the certificate holder's compliance posture. Policies may not be stand-alone statements but may be imbedded within procedures, instructions, or information regarding a particular regulatory requirement. The questions in this section of the data collection tool (DCT) are designed to assist the inspector in determining if the certificate holder's manual has documented or prescribed methods of accomplishing the process requirements that provide answers to the associated questions regarding who, what, when, where, and how. This section contains policy questions, procedural questions, and instructional or informational questions pertaining to various types of certificate holder requirements such as actions, prohibitions, or resources (i.e., personnel, facilities, equipment, technical data, etc.).

Tasks

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| | To meet this objective, the inspector must accomplish the following tasks: |
| 1. | Review the information listed in the Supplemental Information section of this DCT. |
| 2. | Review the duties and responsibilities for management and other personnel identified by the certificate holder who accomplish the De-Icing process. |
| 3. | Review the certificate holder's manual to ensure that it contains policies, procedures, instructions, and information necessary for the De-Icing process. |

Questions

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| | To meet this objective, the inspector must answer the following questions: | |
| 1. | Does the content of the certificate holder's manual meet the specific regulatory and FAA policy requirements for a De-Icing process: | |
| 1.1. | If the certificate holder has a proposed/approved deicing program, does it include: | |
| 1.1.1 | <p>A detailed description of the conditions, responsibilities, and procedures for the implementation of the deicing program? SRRs: 121.629(c)(1)(i); 121.629(c)(1)(ii); 121.629(c)(1)(iii); 121.629(c)(1)(iv) <i>Related Design JTIs:</i></p> <ol style="list-style-type: none"> Check that the Certificate Holder's manual has instructions and information ensuring that no person will dispatch an aircraft, when in the opinion of the pilot in command icing conditions are expected or met that might adversely affect the safety of the flight. <i>Sources:</i> 121.135(a)(1); 121.629(a) <i>Interfaces:</i> 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP) Check that the Certificate Holder's manual has instructions or information ensuring that no person will release an aircraft, when in the opinion of the pilot in command icing conditions are expected or met that might adversely affect the safety of the flight <i>Sources:</i> 121.135(a)(1); 121.629(a) <i>Interfaces:</i> 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP) Check that the Certificate Holder's manual has instructions or information ensuring that no person will dispatch an aircraft, when in the opinion of the aircraft dispatcher icing conditions are expected or met that might adversely affect the safety of the flight | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable |

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| | <p><i>Sources:</i> 121.135(a)(1); 121.629(a)</p> <p><i>Interfaces:</i> 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP)</p> | |
| 4. | <p>Check that the Certificate Holder's manual has instructions or information ensuring that no person will release an aircraft, when in the opinion of the person with authority to release the aircraft under supplemental operations, icing conditions are expected or met that might adversely affect the safety of the flight.</p> <p><i>Sources:</i> 121.135(a)(1); 121.629(a)</p> <p><i>Interfaces:</i> 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 5. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes procedures that contain a detailed description of how the Certificate Holder determines that conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft.</p> <p><i>Sources:</i> 121.629(c)(1)(i)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 6. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes procedures that contain a detailed description of how the Certificate Holder determines that conditions are such that ground deicing/anti-icing operational procedures must be in effect.</p> <p><i>Sources:</i> 121.629(c)(1)(i)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP); 7.1.4(OP)</p> | |
| 7. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes procedures that contain a detailed description of who is responsible for deciding that ground deicing/anti-icing operational procedures must be in effect.</p> <p><i>Sources:</i> 121.629(c)(1)(ii)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP); 7.1.4(OP)</p> | |
| 8. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes a detailed description of the procedures for implementing ground deicing/anti-icing operational procedures</p> <p><i>Sources:</i> 121.629(c)(1)(iii)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 9. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes a detailed description of the specific duties and responsibilities of each operational position or group responsible for getting the aircraft safely airborne while ground deicing/anti-icing operational procedures are in effect.</p> <p><i>Sources:</i> 121.629(c)(1)(iv)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.3(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP); 7.1.4(OP)</p> | |

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| 1.1.2 | <p>Initial and annual recurrent ground training and testing for flight crewmembers and qualification for all other affected personnel concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program?</p> <p>SRRs: 121.629(c)(2)</p> <p><i>Related Design JTIs:</i></p> <ol style="list-style-type: none"> 1. Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the use of holdover times. <i>Sources:</i> 121.629(c)(2)(i) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP) 2. Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the aircraft deicing/anti-icing procedures, including inspection and check procedures and responsibilities. The training must include both general procedures and the specific requirements (differences) of each make, model, series, and variant of aircraft. <i>Sources:</i> 121.629(c)(2)(ii) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP) 3. Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering communications procedures. <i>Sources:</i> 121.629(c)(2)(iii) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP) 4. Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering aircraft surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification, and how contamination adversely affects aircraft performance and flight characteristics. <i>Sources:</i> 121.629(c)(2)(iv) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP) 5. Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the types and characteristics of deicing/anti-icing fluids. <i>Sources:</i> 121.629(c)(2)(v) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP) 6. Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable |
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| | <p>testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering cold weather preflight inspection procedures.</p> <p><i>Sources:</i> 121.629(c)(2)(vi)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP)</p> | |
| 7. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes initial and annual recurrent ground training and testing for flight crewmembers concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the techniques for recognizing contamination on the aircraft.</p> <p><i>Sources:</i> 121.629(c)(2)(vii)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 4.2.3(OP)</p> | |
| 8. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the use of holdover times.</p> <p><i>Sources:</i> 121.629(c)(2)(i)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 9. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the aircraft deicing/anti-icing procedures, including inspection and check procedures and responsibilities. The training must include both general procedures and the specific requirements (differences) of each make, model, series, and variant of aircraft.</p> <p><i>Sources:</i> 121.629(c)(2)(ii)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 10. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering communications procedures.</p> <p><i>Sources:</i> 121.629(c)(2)(iii)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 11. | <p>Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering aircraft surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification, and how contamination adversely affects aircraft performance and flight characteristics.</p> <p><i>Sources:</i> 121.629(c)(2)(iv)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP);</p> | |

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| | <p>4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> <p>12. Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the types and characteristics of deicing/anti-icing fluids. <i>Sources:</i> 121.629(c)(2)(v) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> <p>13. Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering cold weather preflight inspection procedures. <i>Sources:</i> 121.629(c)(2)(vi) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> <p>14. Check that the Certificate Holder's approved ground deicing/anti-icing program includes qualification for all other affected personnel (e.g., aircraft dispatchers, ground crews, contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the techniques for recognizing contamination on the aircraft. <i>Sources:</i> 121.629(c)(2)(vii) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 3.1.13(OP); 4.2.1(AW); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 1.1.3 | <p>The certificate holder's holdover timetables and the procedures for the use of these tables by the certificate holder's personnel? <i>SRRs:</i> 121.629(c)(3) <i>Related Design JTIs:</i></p> <p>1. Check that the Certificate Holder's approved ground deicing/anti-icing program includes the Certificate Holder's holdover timetables. <i>Sources:</i> 121.629(c)(3) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP)</p> <p>2. Check that the Certificate Holder's approved ground deicing/anti-icing program includes the Certificate Holder's procedures for the use of the holdover timetables by the Certificate Holder's personnel. <i>Sources:</i> 121.629(c)(3) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.3(OP); 4.2.3(OP)</p> <p>3. Check that the Certificate Holder's program includes procedures for flight crewmembers to increase or decrease the determined holdover time in changing conditions. <i>Sources:</i> 121.629(c)(3) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.3(OP); 4.2.3(OP)</p> | <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No, Explain</p> <p><input type="checkbox"/> Not Applicable</p> |

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| | <p>4. Check that the Certificate Holder's program provides that takeoff after exceeding any maximum holdover time in the Certificate Holder's holdover timetable is permitted only when at least one of the following conditions exists: (i) A pretakeoff contamination check, as defined in paragraph (c)(4) of this section, determines that the wings, control surfaces, and other critical surfaces, as defined in the Certificate Holder's program are free of frost, ice, or snow. (ii) It is otherwise determined by an alternate procedure approved by the Administrator in accordance with the Certificate Holder's approved program that the wings, control surfaces, and other critical surfaces, as defined in the Certificate Holder's program, are free of frost, ice, or snow. (iii) The wings, control surfaces, and other critical surfaces are redeiced and a new holdover time is determined.</p> <p><i>Sources:</i> 121.629(c)(3)(i); 121.629(c)(3)(ii); 121.629(c)(3)(iii)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.3(OP); 4.2.1(AW); 4.2.3(OP); 4.2.6(OP)</p> | |
| 1.1.4 | <p>Procedures and responsibilities for aircraft deicing/anti-icing, pretakeoff check, and pretakeoff contamination check?</p> <p>SRRs: 121.629(c)(4)</p> <p><i>Related Design JTIs:</i></p> <ol style="list-style-type: none"> 1. Check that the Certificate Holder's program includes aircraft deicing/anti-icing procedures. <i>Sources:</i> 121.629(c)(4) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP) 2. Check that the Certificate Holder's program includes aircraft deicing/anti-icing responsibilities. <i>Sources:</i> 121.629(c)(4) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP) 3. Check that the Certificate Holder's program includes pretakeoff check procedures. <i>Sources:</i> 121.629(c)(4) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP) 4. Check that the Certificate Holder's program includes pretakeoff check responsibilities. <i>Sources:</i> 121.629(c)(4) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP) 5. Check that the Certificate Holder's program includes pretakeoff contamination check procedures. <i>Sources:</i> 121.629(c)(4) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP) 6. Check that the Certificate Holder's program includes pretakeoff contamination check responsibilities. <i>Sources:</i> 121.629(c)(4) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable |

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| | 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP) | |
| 1.2. | <p>If it does not have a proposed/approved deicing program, does the certificate holder include in its operations specifications (paragraph A023) a requirement that, when potential icing conditions exist, all aircraft will be properly checked to ensure freedom from frost, ice, and snow?</p> <p>SRRs: 121.629(d); A.023</p> <p><i>Related Design JTIs:</i></p> <ol style="list-style-type: none"> 1. If the Certificate Holder operates under this section without a program as required in paragraph (c) of this section, check that it includes in its operations specifications a requirement that, any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, no aircraft will takeoff unless it has been checked to ensure that the wings, control surfaces, and other critical surfaces are free of frost, ice, and snow. <i>Sources:</i> 121.629(d) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.1(AW); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP) 2. If the Certificate Holder operates under this section without a program as required in paragraph (c) of this section, check that it includes in its operations specifications a requirement that, any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, no aircraft will takeoff unless it has been checked to ensure that the wings, control surfaces, and other critical surfaces are free of frost, ice, and snow. This check must be accomplished from outside the aircraft. <i>Sources:</i> 121.629(d) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.1(AW); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP) 3. If the Certificate Holder to operates under this section without a program as required in paragraph (c) of this section, check that it includes in its operations specifications a requirement that, any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, no aircraft will takeoff unless it has been checked to ensure that the wings, control surfaces, and other critical surfaces are free of frost, ice, and snow. The check must occur within five minutes prior to beginning takeoff. <i>Sources:</i> 121.629(d) <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.1(AW); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP) | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable |
| 1.3. | Does the certificate holder's Deicing process comply with the guidance contained in FAA Order 8400.10, volume 4, chapter 8? | |
| 1.4. | Does the certificate holder's De-Icing process comply with the guidance contained in AC 120-58? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 1.5. | Does the certificate holder's De-Icing process comply with the guidance contained in AC 120-60B, paragraphs 5-7? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 1.6. | Does the certificate holder's De-Icing process comply with the guidance contained in AC 120-89, paragraphs 5 and 6? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |

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| | | <input type="checkbox"/> Not Applicable |
| 1.7. | If the certificate holder has a proposed/approved deicing program, does it comply with the guidance contained in FAA Notice N8000.308, paragraph 6? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable |
| 1.8. | Does the certificate holder's De-Icing process comply with the guidance contained in FAA Notice N8000.309, paragraph 4? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 1.9. | Does the certificate holder's De-Icing process comply with the guidance contained in FAA Notice N8000.313, paragraph 3? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 1.10. | Does the certificate holder's manual contain the required references to, or excerpts from, operations specifications paragraph A023? SRRs: 119.43(b); A.023 | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 1.11. | If the certificate holder's manual includes excerpts from its operations specifications, are the excerpts clearly identified as part of the operations specifications? SRRs: 119.43(b)(1) | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable |
| 1.12. | Does the certificate holder's manual require compliance with operations specifications paragraph A023? SRRs: 119.43(b)(2) | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 1.13 | Does the certificate holder's manual contain a method for keeping all persons used in its operations informed of the provisions of operations specifications paragraph A023? SRRs: 119.43(c) | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 2. | <p>Does the certificate holder's manual contain general policies for the De-Icing process that comply with the SRRs? SRRs: 121.135(b)(1); 121.629</p> <p><i>Related Design JTIs:</i></p> <ol style="list-style-type: none"> Check that the Certificate Holder's manual has a policy stating that no person may dispatch an aircraft, when in the opinion of the pilot in command icing conditions are expected or met that might adversely affect the safety of the flight. <i>Sources:</i> 121.135(b)(1); 121.629(a) <i>Interfaces:</i> 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP) Check that the Certificate Holder's manual has a policy stating that no person may release an aircraft, when in the opinion of the pilot in command icing conditions are expected or met that might adversely affect the safety of the flight <i>Sources:</i> 121.135(b)(1); 121.629(a) <i>Interfaces:</i> 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP) Check that the Certificate Holder's manual has a policy stating that no person may dispatch an aircraft, when in the opinion of the aircraft dispatcher icing conditions are expected or met that might adversely affect the safety of the flight. <i>Sources:</i> 121.135(b)(1); 121.629(a) <i>Interfaces:</i> 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP) Check that the Certificate Holder's manual has a policy stating that no person may release an aircraft, when in the opinion of the person with | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |

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| | <p>authority to release the aircraft under supplemental operations, icing conditions are expected or met that might adversely affect the safety of the flight.</p> <p><i>Sources:</i> 121.135(b)(1); 121.629(a)</p> <p><i>Interfaces:</i> 2.1.2(AW); 2.1.2(OP); 3.1.3(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 5. | <p>Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to the wings, or when the takeoff would not be in compliance with paragraph (c) of this section.</p> <p><i>Sources:</i> 121.135(b)(1); 121.629(b)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 6. | <p>Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to the control surfaces, or when the takeoff would not be in compliance with paragraph (c) of this section.</p> <p><i>Sources:</i> 121.135(b)(1); 121.629(b)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 7. | <p>Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to the, propellers, or when the takeoff would not be in compliance with paragraph (c) of this section.</p> <p><i>Sources:</i> 121.135(b)(1); 121.629(b)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 8. | <p>Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to the engine inlets or when the takeoff would not be in compliance with paragraph (c) of this section.</p> <p><i>Sources:</i> 121.135(b)(1); 121.629(b)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 9. | <p>Check that the Certificate Holder's manual has a policy to ensure that no person may takeoff an aircraft when frost, ice, or snow is adhering to other critical surfaces of the aircraft or when the takeoff would not be in compliance with paragraph (c) of this section.</p> <p><i>Sources:</i> 121.135(b)(1); 121.629(b)</p> <p><i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.4(AW); 2.1.4(OP); 2.1.5(AW); 2.1.5(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP); 4.2.6(OP); 4.2.11(OP)</p> | |
| 10. | <p>Check that the Certificate Holder's manual has a policy to ensure that no person may dispatch, release, or takeoff an aircraft any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, unless the dispatch, release, and the takeoff comply with the approved ground deicing/anti-icing program in the operations specifications.</p> <p><i>Sources:</i> 121.629(c)</p> | |

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| | <i>Interfaces:</i> 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.4(AW); 2.1.4(OP); 3.1.4(OP); 3.1.13(OP); 3.2.1(OP); 4.2.3(OP); 4.2.5(OP) | |
| 3. | Does the certificate holder's manual reference the appropriate Federal Aviation Regulations listed in the Supplemental Information section of this safety attribute inspection (SAI)? SRRs: 121.135(b)(3) | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 4. | Does the certificate holder's manual contain the duties and responsibilities for personnel who will accomplish the De-Icing process? SRRs: 121.135(b)(2) | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 5. | Does the certificate holder's manual include instructions and information for personnel to meet the requirements of the De-Icing process? SRRs: 121.135(a)(1) | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |

| SAI SECTION 1 - PROCEDURES ATTRIBUTE Drop-Down Menu | |
|--|---|
| 1. | No procedures, policy, instructions or information specified. |
| 2. | Procedures or instructions and information do not identify (who, what, when, where, how). |
| 3. | Procedures, policy or instructions and information do not comply with CFR. |
| 4. | Procedures, policy or instructions and information do not comply with FAA policy and guidance. |
| 5. | Procedures, policy or instructions and information do not comply with other documentation (e.g., manufacturer's data, Jeppesen's Charts, etc.). |
| 6. | Procedures, policy or instructions and information unclear or incomplete. |
| 7. | Documentation quality (e.g., unreadable or illegible). |
| 8. | Procedures, policy or instructions and information inconsistent across Certificate Holder manuals (FOM - Flight Operations Manual to GMM - General Maintenance Manual, etc.). |
| 9. | Procedures, policy or instructions and information inconsistent across media (e.g., paper, microfiche, electronic). |
| 10. | Resource requirements incomplete (personnel, facilities, equipment, technical data). |
| 11. | Other. |

SAI SECTION 2 - CONTROLS ATTRIBUTE

Objective: Controls are checks and restraints designed into a process to ensure a desired result. The questions in this section of the DCT are designed to assist the inspector in determining if checks and restraints are designed into the process to ensure the desired result is achieved. Controls should be written into the manual system to ensure that the most important manual policies, procedures, or instructions and information will be followed.

Controls may be in the form of administrative controls, which are secondary or supplemental written procedures. Like written procedures, administrative controls also need to provide answers to questions regarding who, what, when, where, and how. Controls may also be in the form of engineered controls, such as automated features or mechanical actions or devices (i.e., safety devices, warning devices, etc.).

Tasks

To meet this objective, the inspector must accomplish the following tasks:

1. Review the control questions below.
2. Review the certificate holder's policies, procedures, instructions, and information to gain an understanding of the controls that it has documented.

Questions

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| | To meet this objective, the inspector must answer the following questions: | |
| 1. | Are the following controls built into the De-Icing process: | |
| 1.1. | Is there a control or controls in place to ensure that the certificate holder's aircraft wings, control surfaces, propellers, engine inlets, and other critical surfaces are free of frost, ice, and snow at the final checkpoint? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 1.2. | Is there a control or controls in place to ensure that the certificate holder's aircraft wings, control surfaces, propellers, engine inlets, and other critical surfaces are free of frost, ice, and snow at takeoff? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 2. | Does the certificate holder have a documented method for assessing the impact of any changes made to the controls in the De-Icing process? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |

| SAI SECTION 2 - CONTROLS ATTRIBUTE Drop-Down Menu | |
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| 1. | No controls specified. |
| 2. | Documentation for the controls do not identify (who, what, when, where, how). |
| 3. | Controls incomplete. |
| 4. | Controls could be circumvented. |
| 5. | Controls could be unenforceable. |
| 6. | Resource requirements incomplete (personnel, facilities, equipment, technical data). |
| 7. | Other. |

SAI SECTION 3 - PROCESS MEASUREMENT ATTRIBUTE

Objective: Process measurements are used by the certificate holder to measure and assess its processes, to identify and correct problems or potential problems, and to make improvements to the processes. The questions in this section of the DCT are designed to assist the inspector in determining if the certificate holder measures or assesses information to identify, analyze, and document potential problems with the process. Process measurements are a certificate holder's internal evaluation or auditing of the most important policies, procedures, or instructions and information associated with an element.

To prevent the duplication of work, process measurements are most commonly addressed through a combination of auditing features contained in both the certificate holder's safety program/internal evaluation program (for operations and cabin safety-related issues) and the auditing function of the Continuous Analysis and Surveillance System (for airworthiness or maintenance/inspection-related issues). The director of safety and the quality assurance department often work together to accomplish this function for the certificate holder. This approach requires amendment of the safety program/internal evaluation program audit forms or checklists and the Continuous Analysis and Surveillance System audit forms or checklists to include the specific process measurements for each element.

Tasks

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| | To meet this objective, the inspector must accomplish the following tasks: |
| 1. | Review the process measurement questions below. |
| 2. | Review the certificate holder's policies, procedures, instructions, and information to gain an understanding of the process measurements that it has documented. |

Questions

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| | To meet this objective, the inspector must answer the following questions: | |
| 1. | Does the certificate holder's De-Icing process include the following process measurements: | |
| 1.1. | Is there a process measurement or process measurements that would identify if the certificate holder's aircraft wings, control surfaces, propellers, engine inlets, and other critical surfaces were not free of frost, ice, and snow at the final checkpoint? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 1.2. | Is there a process measurement or process measurements that would identify if the certificate holder's aircraft wings, control surfaces, propellers, engine inlets, and other critical surfaces were not free of frost, ice, and snow at takeoff? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 2. | Is there a process measurement or process measurements that would reveal if the certificate holder's policy, procedures, instructions, and information contained in its manual were not followed? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 3. | Does the certificate holder document its process measurement results? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 4. | Does the certificate holder's manual provide for the use of process measurement results to improve its program? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 5. | Does the organization that conducts the process measurements have direct access to the person with responsibility for the De-Icing process? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |

| SAI SECTION 3 - PROCESS MEASUREMENT ATTRIBUTE Drop-Down Menu | |
|---|---|
| 1. | No process measurements specified. |
| 2. | Documentation for the process measurements does not identify (who, what, when, where, how). |
| 3. | Inability to identify negative findings. |
| 4. | No provisions for implementing corrective actions. |
| 5. | Ineffective follow-up to determine effectiveness of corrective actions. |
| 6. | Resources requirements (personnel, facilities, equipment, technical data). |
| 7. | Other. |

SAI SECTION 4 - INTERFACES ATTRIBUTE

Objective: Interfaces are used by the certificate holder to identify and manage the interactions between processes. The questions in this section of the DCT are designed to assist the inspector in determining whether or not interactions between the policies, procedures, or instructions and information associated with other independent processes within the certificate holder's organization are documented. Written policies, procedures, or instructions and information that are interrelated and located in different manuals within the certificate holder's manual system must be consistent and complement each other. For the interfaces to be effectively managed, it is not only important to identify what the interfaces are, but it is imperative to document the specific location of the interfaces within the certificate holder's manual system.

Tasks

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| | To meet this objective, the inspector must accomplish the following tasks: |
| 1. | Review the interfaces associated with the De-Icing process that have been identified along with the individual questions in section 1, Procedures, of this DCT. |
| 2. | Review the certificate holder's policies, procedures, instructions, and information to gain an understanding of the interfaces that it has documented. |

Questions

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| | To meet this objective, the inspector must answer the following questions: NOTE: The design job task items (JTIs) displayed with the questions in section 1, Procedures, of this DCT identify potential interfaces (by element number) for this element. | |
| 1. | Does the certificate holder's manual properly address the interfaces that are identified along with the individual questions in section 1, Procedures, of this DCT? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 2. | Does the certificate holder's manual document a method for assessing the impact of any changes to the associated interfaces within the De-Icing process? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |

| SAI SECTION 4 - INTERFACES ATTRIBUTE Drop-Down Menu | |
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| 1. | No interfaces specified. |
| 2. | The following interfaces not identified within the Certificate Holder's manual system: |
| 3. | Interfaces listed are inaccurate. |
| 4. | Specific location of interfaces not identified within the manual system. |
| 5. | Other |

SAI SECTION 5 - MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTES

Objective: The questions in this section address the responsibility and authority of the process. They are designed to assist the inspector in determining if there is a clearly identifiable, qualified, and knowledgeable person who is responsible for the process, is answerable for the quality of the process, and has the authority to establish and modify the process. (The person with the authority may or may not be the person with the responsibility.)

Tasks

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| | To meet this objective, the inspector must accomplish the following tasks: |
| 1. | Identify the person who has overall responsibility for the De-Icing process. |
| 2. | Identify the person who has overall authority for the De-Icing process. |
| 3. | Review the duties and responsibilities of the person(s) documented in the certificate holder's manual. |
| 4. | Review the appropriate organizational chart. |

Questions

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| | To meet this objective, the inspector must answer the following questions: | |
| 1. | Does the certificate holder's manual clearly identify who is responsible for the quality of the De-Icing process? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain Name/Title: |
| 2. | Does the certificate holder's manual clearly identify who has authority to establish and modify the policies, procedures, instructions, and information for the De-Icing process? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain Name/Title: |
| 3. | Does the certificate holder's manual include the duties and responsibilities of those who manage the work required by the De-Icing process? SRRs: 121.135(b)(2) | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 4. | Does the certificate holder's manual include instructions and information for those who manage the work required by the De-Icing process? SRRs: 121.135(a)(1) | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 5. | Does the certificate holder's manual clearly and completely document the responsibility for this position? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 6. | Does the certificate holder's manual clearly and completely document the authority for this position? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 7. | Does the certificate holder's manual clearly and completely document its qualification standards for the person having responsibility for the De-Icing process? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 8. | Does the certificate holder's manual clearly and completely document its qualification standards for the person having the authority to establish and modify the certificate holder's policies, procedures, instructions, and information for the De-Icing process? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |
| 9. | Does the certificate holder's manual clearly and completely document the procedures for delegation of authority for the De-Icing process? | <input type="checkbox"/> Yes <input type="checkbox"/> No, Explain |

| SAI SECTION 5 - MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTES Drop-Down Menu | |
|--|---------------------------|
| 1. | Not documented. |
| 2. | Documentation unclear. |
| 3. | Documentation incomplete. |
| 4. | Other. |